of English composition as I have described are two. The first is closer contact with professional departments. Such contact has already been secured to some extent in the higher years, where professional reports are reviewed by members of the English department. This, however, is likely to resolve itself into a mere correction of faults in the technique of expression. What is needed rather is discussion and reports in which from the outset the teacher of engineering and the teacher of English shall cooperate; which shall be both conceived and carried out with the purpose not only of securing accuracy in details of fact, but also of studying the theories of thought and of expression which underlie such work. For instance, in connection with the reports spoken of above, it has for some time been a dream, unrealized as yet on account of tabular view adjustments and other practical difficulties, that first-year students might be taken in small sections, in the company of an instructor from an engineering department and another from the department of English, to study and report on some simple assignment along the lines of their chosen profession. The experiment, I believe, would be worth all the trouble of arrangement, and would do much in stimulating their powers of observation and in teaching them that the mastery of an English style is no ornamental acquisition, but the means of expressing yourself, your attainments and your facts, so as to become a moving force in the world.

The second need of this teaching is that of teachers. In other subjects, teachers—the good ones—are said to be born, not made. The ideal teacher of composition could hardly be born, for the limitations of human nature preclude him. To criticize all thought—the substance of it, from which alone the form depends—to sympathize with every point of view, to win the confidence of every type of mind—these tasks require some genuine magnanimity of soul. No man can fully meet so large a requirement, yet here and there are found persons not ill adapted on one side or another for the task. Nothing can come amiss—scraps of general information, breadth of interest, the power of drawing out other people's ideas, above all warmth of heart. Meanwhile with whatever equipment, lucky if with a trace of some necessary quality, one does one's best. It is at least something to have conceived the sort of man one ought to be.

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## *THE CONDITIONS AFFECTING CHEMISTRY IN NEW YORK*[1]

In assuming the chair, I am confident that the coming year will be one of great progress in our section's history, not through any merit of its officers, but through the ever-increasing spirit of cooperation among the members, and the rapid strides which research and industry are making in this country. You will hear reports, this evening, of two important general meetings that interested our membership, that of our own society at Detroit and that of the International Congress of Applied Chemistry at London. In both, members of this section bore a worthy share, and it is a gratifying tribute to American progress in science and industry, that the International Congress chose America for its next meeting-place. It is not only the foreigner who lands at Ellis Island that deems America synonymous with New York, and the members of this section must be prepared to do their full duty, during the next three years, in order that our foreign brethren may carry back

[1] Address of the chairman of the New York Section of the American Chemical Society, delivered October 8, 1909.

from their visit a crystalline rather than a colloidal vision of chemistry in America.

And so, gentlemen, I have preferred to devote the minutes which custom permits your chairman to employ in airing his personal views, to a survey of the conditions affecting chemistry in New York, rather than to the presentation of some debatable scientific ideas, as I had originally intended. The choice of the more subjective topic is rendered more appropriate by the fact that this meeting is to be followed by a session of the Chemists' Club, called for the purpose of settling a question vitally affecting the interests of New York chemists.

Eighteen years ago, when the men who had carried the American Chemical Society through so many vicissitudes organized this section, in order that the general society might become a truly national one, I had the honor, rather than the duty, of being the first local secretary. The meetings were so poorly attended, the original papers so scarce, and the general business so unimportant, that no heavy work developed upon its officers. We met in the chapel of the old university building, where Professor Hall and I had our primitive laboratories, out of which we carved, with some difficulty, shelf-room for the fragmentary society library. When we felt in need of a little variety, we sat in Professor Chandler's lecture-room in 49th Street and listened to the passing trains; or in East 23d Street, peered at the chairman ensconsed behind batteries of Professor Doremus's bell-jars and air-pumps. An attendance of forty members, I believe, was a record-breaking event.

I need hardly expatiate upon the wonderful changes that have been wrought since 1891. Our three colleges have moved far up-town, and the splendid Havemeyer Laboratories of Columbia and New York University, and the beautiful new chemistry building on St. Nicholas Terrace, make us glad to miss the dingy and crowded places where chemistry was taught an academic generation ago. Our own section and kindred societies have been meeting in this hall of the Chemists' Club for the past ten seasons, and no one can estimate what share a fixed and commodious meeting-place has borne in the marvelous increase in membership and attendance. The other important factor is, of course, the growth of chemical industry in this vicinity.

While we can, therefore, congratulate ourselves upon the great strides that have been made, during the past two decades, it behooves us to inquire whether there are not still some drawbacks to our progress, not by way of carping criticism, but for the purpose of seeking such effective remedies that future progress may be made absolutely certain.

For obvious reasons, we need not ask whether the internal conditions in the chemical factories are satisfactory; since there the managers must know that their success depends upon the scientific abilities of their chemists. It is doubtful whether the same can be said of the establishments which employ a chemist or two to apply specific tests; and it is certain that there are still many factories which conduct, by rule of thumb, operations that should be continually controlled by scientific tests, if shameful waste is to be avoided.

The American people are but slowly learning the importance of the educated banker and the expert accountant alongside the brilliant financier and the bold speculator; similarly, while they acclaim the clever inventor and the skilful engineer, they have yet to recognize the worth of that expert accountant of material economy, the industrial chemist. Quite aside, therefore, from any wish for greater profits to our associates who are gaining their daily bread as commercial or analytical chemists, pa-

triotic motives lead us to the earnest hope that closer watch upon the economy of production may bring about that conservation of natural resources of which the politicians prate, but for which the chemist works. How, then, can the status of the independent commercial chemist be raised in our city? By giving him a central rallypoint; a home that proves to the layman that his is a skilled profession, not a mere job-hunting trade; a place where the manufacturer or merchant can find the man he wants without a rambling search through the city directory. Doubtless, some of our colleagues are so well known, that all the business comes to them which they can handle. But the many additional independent chemists, whom our commercial situation demands, can only establish themselves if they can secure proper laboratory facilities, without hiring attics in tumbledown rookeries.

Every year scores of New Yorkers graduate in chemistry from our local institutions and return from years of protracted study in other American and European institutions. They are enthusiastic for research; in completing their theses they have laid aside definite ideas for subsequent experimentation; but they have no laboratory. While waiting to hear from the teachers' agency where they have registered, while carrying on desultory correspondence with manufacturers who *may* give them a chance, they do not venture upon expenditure of time and money to fit out a private laboratory, which they may be called upon to quit any minute upon the appearance of that desired appointment. Often necessity or tedium will cause them to accept temporary work of an entirely different character and indefinitely postpone the execution of the experiments which they had mapped out. Who will estimate the loss of scientific momentum, the economic and intellectual waste, which this lack of laboratory facilities for the graduate inflicts upon New York, as compared with Berlin, Vienna, Paris and London? Either our universities and colleges, or private enterprise, should provide temporary desk-room for the independent research chemist.

So much for the purely practical side of our question? How about the opportunities for presenting the results of investigation? We all appreciate the excellence of the three chemical journals published by our own society, as well as that of the Society of Chemical Industry, and we may say that these, together with the independently conducted periodicals, enable everybody to obtain a hearing; but it does seem to me that the cost of subscribing to all of these journals is excessive, and that much unnecessary expense is incurred through duplication of administrative efforts, as well as through duplication of abstracts, etc. This, of course, is a problem with which we, as a local section, are not directly called upon to deal; nevertheless, it is proper to call the attention of those who are interested in the management of chemical societies in America to the fact that membership alone in the various chemical organizations of New York costs upward of $50 per year, and that it would be but fair to so arrange matters that the total cost would be reduced by a sort of clubbing arrangement, proportionately to the number of societies to which a member belongs. It seems to me, however, that in one particular point we are at a distinct disadvantage as compared with the foreign chemists: the frequency of regular meetings at which papers can be presented for the purpose of securing priority of publication. Would it not be possible for our various local sections, including the Chemical Section of the New York Academy of Sciences, to arrange the dates of their meetings conjointly in such a way that a meeting would occur once a week during

nine months, and once a month during the summer, thus securing for the New York chemist the same opportunities for the early presentation of a scientific discovery that are possessed by his brethren in European centers? There is, of course, another remedy which appeals to me, though I do not express it with any degree of urgency; namely, the consolidation of all local sections into a single organization which would affiliate its members automatically with all the national bodies now in existence, and would turn over the scientific material of its meetings to those journals for which it seemed most suited. As a matter of fact, glancing over the annual lists of our various local organizations, I find a remarkable interchangeability of officers, and can hardly imagine that the interests of their memberships can be very far apart if the chairman of the New York Section of the American Chemical Society in one year is the next year expected to guide the fortunes of the New York Section of the Electrochemical Society, or of the Society of Chemical Industry. If this were done and we could then exert our influence upon the various general societies to avoid duplication of work, by issuing their chemical abstracts jointly, the strain on the purses as well as the shelves of American chemists would be greatly relieved.

There is still another point, however, in which the American chemist is at a great disadvantage as compared with the European: the ease of securing material for his research and of comparing his results with those of others. In Europe, especially in Germany, research is never seriously delayed by lack of a needed preparation, whereas none of our supply houses carry a full stock of chemicals. To obtain a single gram of some particular substance, needed for a few preliminary tests, frequently causes weeks of delay, as well as the disproportionate custom house and brokerage expenses involved in the importation of small quantities. Besides, owing to the better centralization of scientific laboratories in Europe, and the existence in each case of a fairly complete set of specimens, accumulated in the researches of large numbers of academic investigators, it is comparatively easy to obtain by correspondence research material or typical specimens for comparison. In this country, on the other hand, laboratories are scattered throughout the numerous colleges and universities, and there are no established rules by which specimens must be deposited with the laboratory. In smaller laboratories, especially, the chances of preservation after the departure of the investigator are not very good. It would be, consequently, very much more difficult to obtain such specimens here. I would suggest, therefore, that a chemical museum be established in New York, to perform for the American chemists the functions that the Smithsonian Institution so admirably carries on for the benefit of American naturalists. This museum would not attempt to be a popular show-place, but would embody, in the first place, as complete a collection as possible of chemically pure materials of the rarer kinds, so as to supplement, but not in any manner compete with, the stock of commercial supply-houses. Any scientific investigator would be entitled to borrow or purchase material required for immediate experimentation, and all used articles would be replaced as quickly as possible.

In the second place, it would be the depository for specimens of new substances obtained in American research. Every chemist would be invited to send to the museum a small quantity of each substance newly prepared by him, not, indeed, as an evidence of the good faith of his investigation, but, rather, to enable future workers to obtain such material, either for

comparison, or for further experimentation with the least possible delay. Many substances that are now carried away from universities by students who subsequently abandon chemical research, or which belong to the families of deceased chemists who do not know what to do with them, would thereby be rescued from oblivion, and might ultimately become of the greatest value for a special purpose.

Thirdly, this museum would invite chemical manufacturers to send standard samples of their products, and thereby facilitate the commercial relations between consumer and manufacturer.

To such a museum there could be attached a competent staff of workers for the preparation of materials not otherwise available. In the analysis of samples submitted as official standards, we should have the beginning of that Chemische Reichsanstalt which is now the chief object to which German chemists are directing their attention.

The past twenty years have seen the construction of innumerable teaching laboratories in our vicinity. They have seen an undreamt of development and growth of chemical industry, and, above all, they have seen the coming together of the scattered chemists into a large and powerful society. Now is the time when we should make every effort to direct these forces that we have marshaled toward the attainment of definite objects, and coordinate all our enterprises in those directions that will make for the improvement of the intellectual as well as the material conditions of our beloved city.

Morris Loeb

## *RARE BIRDS IN THE NEW YORK ZOOLOGICAL PARK*

It may be of interest to record the fact that in the collection of living birds in the New York Zoological Park, there are at present an unusual number of rare species of especial interest to students of evolution. Many are representatives of isolated families or even orders and the majority are neotropical in habitat.

The family Ciconiidae or true storks are represented in the new world by only three species, all of which are now living in the Zoological Park.

The Maguari stork, *Euxenura maguari* (Gmel.), is represented by two specimens, noteworthy as paralleling closely the European white stork, *Ciconia ciconia* in color, but excelling it in size.

The other two American storks are the jabiru, *Mycteria americana* Linn., and wood ibis, *Tantalus loculator* Linn. It is better even for technical purposes to call these by their vulgar than their scientific names, as our over-zealous systematists have recently deftly exchanged their Latin cognomens. Until these new radical changes are approved by some international board, it seems better to use the world-wide *Tantalus* (wood ibis) and *Mycteria* (jabiru).

The former is a common bird always on exhibition, but the jabiru is much rarer, and the splendid individual now in the park is only the second one which we have been able to obtain.

The genus *Chauna* of the order Palamedeiformes is complete, both species of screamer, the black-necked, *C. chavaria* (Linn.), and the crested, *C. cristata* (Swains.), being in the collection.

But the most significant series is of the so-called suborders of Gruiformes or crane-like birds. Four out of the six suborders are represented; the Arami by the limpkin, *Aramus giganteus* (Bonap.); Eurypygæ by the sunbittern, *Eurypyga helias* (Pall.); Psophiæ by the common, *Psophia crepitans* Linn., and the white-backed trumpeters, *P. leucoptera* Spix.

Finally, the only two species of Dicholophi are both in the collection, viz.: the crested, *Cariama cristata* Linn., and Burmeister's seriema, *Chunga burmeisteri* (Hartl).

Among other noteworthy species of birds may be mentioned both sexes of the harpy eagle, *Thrasaëtus harpyia* (Linn.); two Cali-